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Managing internal and external Communication in a Competitive Climate via EDI concept

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Abstract: - Electronic data interchange (EDI), a specific form of interorganizational systems, has the potential to significantly influence business operations and the exchange of business documents in a number of industries and to provide substantive tangible and intangible benefits to the participating firms. EDI within organizations continues to grow, it becomes increasingly desirable to establish a tactical linkage between the strategic value of EDI and observed operational benefits. This study shows EDI implementation, which has three dimensions: integration, internal and external communication, and performance. Also, it shows that the success of any company depend on the good flow of communication which is the main aim of EDI. The main purpose of EDI concept from the standpoint of the organization is its successful functioning through internal and external communication. Internal communication is information and ideas exchange within the organization itself, while external communication means exchange of information both within the organization itself and outside the organization.

Key-Words: - Communication, internal communication, external communication, Electronic data interchange (EDI), Value Added Network (VAN), competitive advantage

1 Introduction

Organizations do not exist without people, and relationships between people cannot exist without communication. All organizations are created and organized by the communication process and maintained by people who communicate with each other. People need to communicate in order to organize themselves, and then they have to communicate to carry out the coordination and control of their activities. The organization represents the context in which communication takes place. But it is more than that. It is also context which partly determines what and how it communicates. Among the basic types of communication in business organizations there are internal and external communication. The Internal and external communication are very important resources of organizational communication. Internal communication is exchange of information and ideas within organization, while external communication is bringing information from outside into the organization and out of it. It is very important role played by internal and external communication with the management of business organizations. Both types of communication are accomplished in formal and informal way [1]. The formal aspects of communication are often in the

foreground. However, one should not forget that this may be only a single factor in the overall organizational communication. All official lines communication in an organization operating in conjunction with a widespread informal flows information that can help individuals and groups to achieve their goals. Even when official channels interfere with the transmission of information, informal connections between people (like friendships or links to other departments), can help the process of communication. Communication in hierarchical groups is extremely complex. However, the joint efforts of all employees who are aware of its importance and necessity, and who are engaged, invest adequate efforts towards its improvement and achievement of optimum communication level followed by a harmonious working atmosphere.

Internal and external communication is a set of activities involved in managing and orchestrating all internal and external communications aimed at creating favorable point of view among stakeholders on which the company depends. It is the messages issued by a corporate organization, body, or institute to its audiences, such as employees, media, channel partners and the general public. Organizations aim to communicate the same message to all of its stakeholders, to transmit coherence, credibility and

ethic. Corporate Communications help organizations explain their mission, combine its many visions and values into a cohesive message to stakeholders. The concept of corporate communication could be seen as an integrative communication structure linking stakeholders to the organization. Communications is responsible for all communications related businesses, which includes corporate identity. The aim is to nurture and enhance the reputation of the company, since the reputation has a significant impact on the business success of the company. Departments of communications therefore develops a communication strategy that follows the business strategy of the company. Communication is the process of exchanging information over an agreed system of signs. It is the process of sending information to yourself or to any other entity, typically through language. The word communication literally means to share, to do something the general or common. Communication is usually described by three main dimensions: the content, form and order [2]. Content and form of communication create messages that are sent to the target. Exchange of information through Electronic data interchange, makes communication more efficient. The focus of the present paper lies in the specific form of such communication namely in an interactive one [3] with electronic data interchange.

The rest of the paper is organized as follows. After Introduction, in Section 2, brief discussion about the role of internal and external communication in business success as a competitive advantage. Section 3 define EDI concept. Section 4 presents Internal and external communication via EDI. Finally, Section 5 concludes this paper.

2 The role of internal and external communication in business success as a competitive advantage

Communication has a very important role in business, which includes different kinds of relationships among people and organizations people make. In order to buy or sell goods or services, we have to communicate with others. Also, internal communication is crucial for efficient work in any organization, and it is becoming a source of competitive advantage.

There are many different models that describe communication processes, starting from the simplest model of message transmission from the sender to the recipient through one channel. For them, the communication campaign whose aim is to convey a message from a sender to another. All of these

approaches have formed a broad field of different theories describing communication and its phenomena.

The organizational structure should be adjusted to the strategy, or may not work well. When designing an organization, besides a strategy, different variables must be taken into consideration with specific system in a given time, such as company size, available technology and the environment in which it operates. Since the transnational companies, present in several geographic areas, to even greater complexity will be covering wider geographic distance, different time zones, languages, attitudes and business practices. The new era would necessarily lead to the creation of huge corporations, and that they successfully operated it must be a change in their internal and external communication [3].

2.1 Internal and External communication

The main goal of the communication aspect of the organization is its successful functioning. As a result, formal communication in the organization is realized in several directions - vertical, horizontal and diagonal. Vertical communication has two directions: downward (top-down) and upward (bottom-up) and exists in a hierarchical structured systems. It is based on the procedure of subordination (superiority and subordination).

The downward flow of communication is stronger than upward, horizontal and diagonal directions communication. It starts from the top-managers, runs through all levels of management to entry level positions, which are located at the bottom of the hierarchy. The main goal of downward flow of communication is leadership and management of individuals at lower hierarchical structures.

As the internal communication information transmitted up, down, horizontal and diagonal in the organizational structure, the external communication entered into the organization and amounts outside it. Companies constantly exchange messages with customers, suppliers, distributors, competitors, investors, journalists, representatives of state structures and others.

Both, internal and external communication can be represented as hexagonal network. The vertexes of the grid depict one participant in the communication.

The network is depicted on Figure 1. Every vertex of the grid is addressed by a unique coordinate triplet. The three values are not independent; their sum is either 0 or 1. The points

having 0-sum coordinate values are called even, the points with 1-sum are odd. One of the first things to notice about the grid is that the points are of two types; the even points have connections in the shape of Y, while the odd points have opposite orientations of connections. Since there are two types of points, this grid is not a lattice: some of the grid vectors do not translate the grid to itself. Actually, exactly the vectors described by 0 sum coordinate triplets shift the grid to itself.

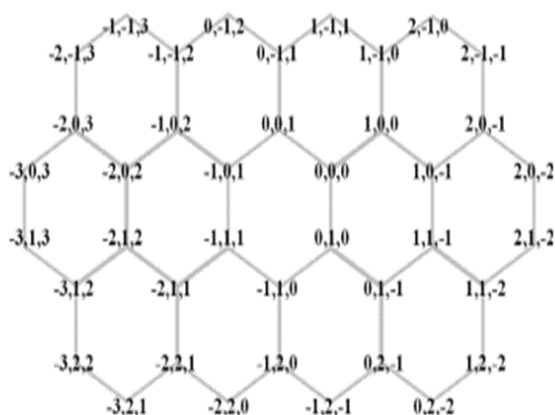


Fig 1: Hexagonal network – coordinate values of nodes

Using the coordinate triplets' one can write the neighborhood and connectedness relations in the following formal form. The point's p and q of the hexagonal network are:

m -neighbors ($m = 1, 2, 3$), if the following two conditions hold:

- (1) $|p(i) - q(i)| \leq 1, \text{ for } i = 1, 2, 3$
- (2) $|p(1) - q(1)| + |p(2) - q(2)| + |p(3) - q(3)| = m$

m -connected ($m=1,2,3$),if:

- (1) $|p(i) - q(i)| \leq 1, \text{ for } i = 1, 2, 3$
- (2) $|p(1) - q(1)| + |p(2) - q(2)| + |p(3) - q(3)| \leq m$

These definitions are of the same fashion as similar definitions on the square grid, where $m \in \{1, 2\}$ [4].

3 EDI Concept

The global development of information technologies (IT) and communication affects the industry to moves in direction to paperless procurement. Via new information technology, communication is much more efficient, effective, precis (on time), easier and faster. One of the models that is changing the present concept of business is Electronic Data Interchange (EDI) [5].

EDI allows companies to carry out business without any complication with data entry and mailings and to overcome the traditional method of handling paper documents.

Electronic interaction replaces paper in most business-to-business (B2B) transactions. If we consider the past, EDI was created in late 60s with idea to solve the problems with large amounts of paper documentation which affected on settlement and delivery delays in airline, railroad, carrier and shipping companies.

Today, companies with electronic data interchange (EDI) will have the advantages in contracts winning and establishing good partnership. The benefits of EDI is in almost every segment of industry: aerospace, petroleum, telecommunications, grocery, raw materials, transportation, insurance, real estate, utilities, manufacturing, retail wholesalers and distributors, and, more recently, the healthcare industry. Moreover, industries such as retail, health care, automotive, and grocery are highly competitive, have a high number of transactions, and are more likely to adopt EDI to drive efficiencies and reduce lead times [6].

3.1 Structure of EDI

The concept of EDI is to standardize and automate business communications between all trading partners in a market sector through standardized forms for electronic commerce. This EDI standardization is based on public document formats, rules of exchange and business procedures. EDI is a powerful business concept for using today's digital environment to automate and re-engineer business processes for maximum productivity and control. This kind of business development provides the lower transaction costs and produce quicker response time for the customer and also for the supplier. It eliminates much of the inefficiencies and possibilities for error that are traditionally a part of the manual entry and dispatch of business information.

The architecture of EDI (standard document formats, rules, procedures and open communications systems) can be applied effectively in electronic medical claims, and banking to improve our present systems.

Elimination of information delays by the comprehensive use of EDI provides substantial savings in the costs of inventory management through a reduction of the bullwhip effect and the unstable behavior of the variables measured [7].

3.2 Value Added Network (VAN)

To successfully start doing business with EDI model, company needs to setup EDI standards, to accomplish agreements between trading partners and to implement communication software and links in EDI VAN (Value Added Network).

VAN is a special online service that provides business traffic between a private corporation's network and the trading companies that are connected into same VAN network. All traffic needed is done via this kind of network. VAN can be also used for services such as message encryption, secure email and management reporting. VAN is used to solve interface and communication problems between multiple companies that have different computer systems, different protocols and different schedules.

Trading partners which cannot afford the expenses of leased line and dual-up connections required to support direct and VAN-aided EDI. Companies have another alternative to switch on Internet and been able to do business with large customers that demand EDI capabilities from suppliers [8].

The emergence of Internet EDI has caused a shift in the conceptualization of EDI as an electronic dyad integrating a single buyer and supplier, to a system that supports a single firm's linkages with a large number of supply chain partners. The emergence of internet-based communications has positively affected EDI use, but, more importantly, it signals the need for scholars to better inform managers on the benefits of EDI use within a supply chain [6].

4. Communication via EDI

When we observe communication as organization process, it's possible to conclude that we have internal and external type of communication. We are going to describe only communication flows which are related to EDI concept. The internal communication is based on communication flow inside the organisation and its segments. Internal communication is key for successful business and good interpersonal relationship. We cannot expect any kind of positive activity into our company if we don't have good communication flow inside of company. The prerequisite for successful external communication is well ordered internal communication.

External communication can be defined as interactive process of exchanging information with market including every company which interacts on it. We already presented the benefits of EDI, so it's

obvious that this kind of improvement is providing WIN-WIN situation (for both sides). For e.g. the partnership between the wholesaler and supplier is based on goods supply. They need to be ready for communication 24/7 service. So if they want to make a change and step into electronic exchange of documents, there are few prerequisite to complete first. The best start point is to obtain the GLN code which presents the identification key which secures identification of physical locations or legal entities.

GS1 is worldwide organization which provides the GLN code. Trading partners also have to agree mutually about using the EDI model of exchange. It is very important to have qualified employee / employees for monitoring and controlling the processes inside EDI.

Now the electronic data exchange can start. First step of EDI model is to pair the price catalogue of all goods/products they will exchange. It is very important to use GTIN code (Global Trade Item Number) for marking the goods/products. Every good/product need to have unique GTIN code so there is no possibility for mistake during the next phase. GTIN can be used by a company to uniquely identify all of its trade items.

Ordering process comes in next phase, and it starts when the stocks drop at order point, wholesaler makes an automated order to him supplier. The order must contain mandatory elements (GLN, GTIN, quantity, place of delivery). Via EDI the order is going from wholesaler Enterprise resource planning software (ERP) in some arranged document format to EDI provider which transforms that order to readable document format for suppliers ERP and delivers it to supplier. All this is done in VAN with all safety protocols. There is no possibility that incorrect (missing any mandatory elements) document format enters the network. If the document is incorrect that automatically generate error which pop-up on controlling / monitoring EDI software application. The software shows what was wrong and how to fix the problem. The ordering process is finished when supplier receives the document in wanted form.

When the order document is received, sender/wholesaler is expecting answer. That kind of answer is called order response which can be simple and full. Simple order response implies an incomplete delivery of goods/products. Full order response means complete (requested) delivery of goods/products. This type of document is important for wholesalers because if the supplier cannot deliver requested (ordered) list of goods/products, wholesaler must order the missing articles from other suppliers. The treatment is same as for order.

Order response will be exported from suppliers ERP to EDI prover. Then EDI prover converts that standardized and structured EDI document to readable (also standardized and structured but in other format) EDI document for wholesaler [9].

The next step of EDI process in trading partners is exchange of electronic despatch advice document. This phase begins when wholesaler receives the order response. Delivery process starts with exporting the goods/products from storage to logistic transportation (any kind). The loaded articles and waybill are in transportation process meanwhile despatch advice document transfers via EDI. Electronic despatch advice is crucial for storage manager at wholesaler side, because she will inform and prepare him for receiving delivery. Process of exchanging EDI document is same, suppliers ERP on one side, EDI provider in middle and wholesalers ERP on other side.

This is phase in which trading partners exchange receive advice document via EDI. When logistic transportation arrives at defined delivery location, storage manager and logistic employee can compare real conditions of waybill [10] (despatch advice on paper), EDI despatch advice and real state of goods/products. It is possible to have mismatch of documents and articles (dispersal of articles) which generates receive advice (the next EDI document). Receive advice presents document which contains all articles that are loaded into wholesaler storage. It gives insight of real amount and state of imported articles and can be used for comparison of despatch advice document (despatched articles) and real amount and state of articles. It is very important that both sides (wholesaler storage manager and supplier/logistic representative) are involved in making state report. They both need to confirm and sign the receive advice in paper form (which will be used as logistic document for transportation and also as report document for supplier warehouse). When loading of goods/products are finished, created receive advice will be sent via EDI to supplier. Distortion between receive advice and despatch advice can be used for penalty measures related to supplier. That can be one of terms in business contract between two trading partners, depends how powerful wholesaler is. The receive advice is base for next document which will be presented in next phase. Same EDI document transaction as for despatch advice but supplier and wholesaler switched roles [11].

Invoice as most important financial document is our next subject of EDI model. Invoice should be created based on receive advice which wholesaler sent. That is the only correct way the invoice should

be made, otherwise there will be distortion which generates extra document (credit notes or reverse invoice) and extra work. If we look back, we remember that EDI concept allows automated and standardized processes which implies easier and faster workflow. So if we make invoice related on despatch advice there will be possibility for distortion and incorrect invoice which generates extra work. EDI concept allow us to have perfectly ordered invoice which is ready for automated liquidation. Approximately 95% of invoices that are delivered via EDI have automated liquidation. Which implicates that no workforce is needed for monitoring/controlling process of invoice liquidation. Only around 5% of invoices need to be checked/corrected by competent workforce.

Next type of financial document which is also present in EDI concept is credit note. He is related with return EDI document. This type of document is used when we have different unpleasant but common situations. One of the situations is that the best before / quality of goods / products is not good enough then buyer / wholesaler creates EDI return. That implies transportation (of goods / products) back to seller / supplier with explanation of return. Supplier receives goods / products back, and then he will created credit note for returned articles. EDI return is document sent by wholesaler to supplier through the EDI provider his network. Credit note is document which can be considered as answer on EDI return. It's going from supplier through the EDI prover and ends up at wholesalers ERP [12].

Two very helpful and valuable EDI documents are sales report and inventory report. The benefits of these reports are available for supplier side. Sales report document give us view of sold articles from wholesaler warehouse. This help to make a plan of distribution and production of articles based on needs wholesalers. It is possible to have fluctuations in reports dependently of season or some other market factors. On other hand, inventory report give us insight in our stocks at wholesaler warehouse. It also help us to prepare for (possible order) distribution of articles for this wholesaler. Both of this documents are delivered from wholesaler to supplier through the EDI provider network. This kind of reports are usually sent on supplier request.

At the end of this example, it can be easily conclude that EDI provider is mandatory partner of this kind of communication. On question why, answer is real simple, because all communication flows are going through it. It has mediator role, which provides readable document formats for both sides. EDI provider protects document transfer via VAN network and providing absolute privacy in

transformation/converting process of EDI documents.

5 Conclusion

The advantages of communication, described in the paper: Effectively - communication on realization of long distance with little financial expenditure; Prospects for the sender of the message; Convenience to the recipient of the message - to save and recall the content, or references to evidence.

Despite the great resistance to organizational change which brings general uncertainty and increases the risk of business, this paperless processing of information between firms through EDI leads directly to: reduction in administrative costs; reduction in clerical efforts; reduction in errors; reduction in transaction cycle times; improved inventory/record management; improved communications; improved trading partner relationships; improved customer service; improved management and forecasting information; re-engineering and streamlining of internal administrative processes; and overall increased productivity.

This kind of benefits can be expected when all mentioned EDI documents are implemented inside the system. If any of them is missing, business model is not fully completed and we cannot expect full benefits of EDI concept. Beside all mentioned benefits, EDI model is becoming more and more required as standard business "equipment". These days it's almost unthinkable to plan any serious business without EDI exchange.

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